

ER-2 Flight Summary

Mission: Mission 9

Flight Scientists: M. King, P. Newman

Sortie: 02-954

Date: Friday, 26 July 2002

Pilot: J. Barrilleaux

Takeoff: 1215 EDT (1615 UTC)

Landing: 1745 EDT (2145 UTC)

Duration: 5:30

Objectives:

The aircraft took off at 1215 EDT, proceeded to waypoint A (21°38'N, 86°04'W), where it joined up with the WB-57F. The plane continued on a heading towards the SSE parallel to the Aqua overpass that occurred at 1837 UTC. The separation distance between the ER-2 ground track and the Aqua ground track was approximately 484 km at the time of the satellite overpass. The ER-2 proceeded to the SSE and turned around near the east coast of Honduras. Dropsondes were released approximately every few degrees on the southbound leg.

The 07/26/2002 12Z sonde at San Andres Island (12.6°N and 81.0°W) showed 200 hPa (39 kft) winds of 15 kts from the SSE. By 1600, strong convection had developed over Nicaragua, with cirrus blow-off being carried towards the NE away from the land. The ER-2 and WB-57F remained relatively close together during the flight. At approximately 1810, the lidar on the ER-2 began to observe the thick layer of cirrus (13-16 km) that was blowing off of the Nicaraguan convection. This layer was continuously observed on this southbound leg. The WB-57F briefly sampled the cirrus of this same cloud. At about 1845, the ER-2 reversed course, continuing to sample this cirrus layer until about 1910 (approximately NE of Honduras). In addition to the cirrus layer, a layer of what is presumed to be Saharan dust was seen between the surface and 4 km again to the NE of Honduras. The aircraft mainly observed clear air with occasional patches of cirrus on the remainder of the flight. Landing occurred at 1745.

Satellite or fixed coordination:

Satellites (relative to eastern site):

Aqua – 1837 UTC, VZA = 34.70°

Western ground site:

PARSL, Everglades National Park, Gulf Coast Visitor's Center
25 50.7 N, 81 23.15 W

Overpasses of Western Site

None

Eastern ground site:

Kendall-Tamiami Airport

25 39.3 N, 80 25.9 W

Overpasses of Eastern Site


None

Aircraft coordination:

Nominal take off times (local): WB-57 (1219).

WB-57: In situ sampling along the Aqua flight line underneath the ER-2 between 1715 and 2000 UTC, primarily between 14 and 16 km.

Summary/highlights:

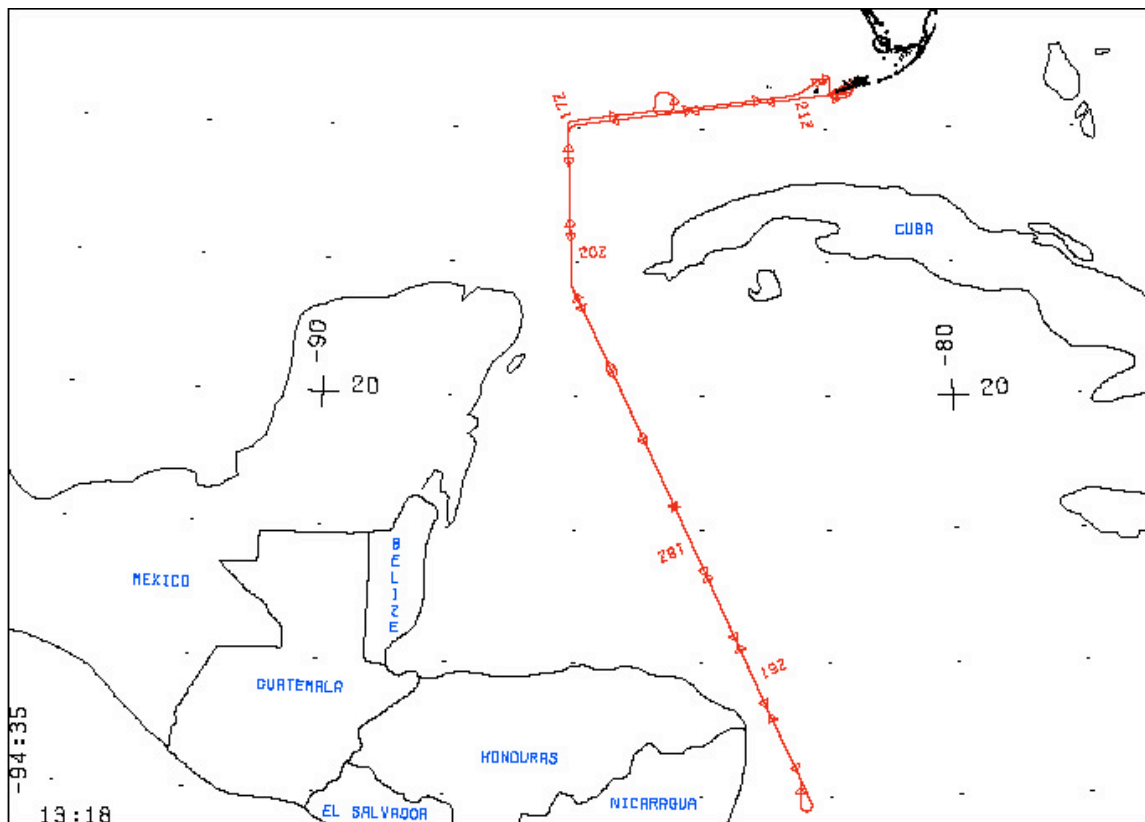
•  Dropsondes: 6 sondes dropped

<i>Sonde</i>	<i>Rel. time</i>	<i>Rel. long.</i>	<i>Rel. lat.</i>
1	17:36:19	85° 19.1'	20° 11.6'
2	17:53:20	84° 29.2'	18° 30.6'
3	18:18:20	83° 18.4'	16° 02.9'
4	18:36:20	82° 27.7'	14° 16.5'
5	18:55:41	82° 56.7'	15° 16.4'
6	20:17:20	86° 09.5'	24° 00.3'

ER-2 science instrument payload and status:

Instrument	Status	Notes
CoSSIR Conical Scanning Sub-mm wave Imaging Radiometer	G	
CPL Cloud Physics Lidar	G	
CRS Cloud Radar System	G	
EDOP ER-2 Doppler Radar	G	
JLH JPL Laser Hygrometer	G	
MAS MODIS Airborne Simulator	G	
MMS Meteor. Meas. System	G	
MTP Microwave Temperature Profiler	G	
RAMS Radiation Meas. System	G	
SSFR Solar Spectral Flux Radiometer	G	
Dropsonde	G	

**G = good; P = partial data collected; F = failure, no data; NA = status not available
at time of writing**



FLIGHT 02-954 26 JULY 2002 A/C 009 CRYSTAL/FACE
 LAMBERT CONFORMAL PROJECTION • GP1 = 12.0 GP2 = 22.9 CM = -83.8 ROTATED BY 0.0
 18:15:00 TO 21:45:00 UT SCALE 1:7.88E+08 TIME TICK EVERY 10.00 MINUTES